

SID 59

RESULT 10
E34283
LOCUS E34283 941 bp DNA linear PAT 31~JAN~2002
DEFINITION Environmental stress-tolerant plant.
ACCESSION E34283
VERSION E34283.1 GI:18624288
KEYWORDS JP 2000116259-A/12.
SOURCE Arabidopsis thaliana.
ORGANISM Arabidopsis thaliana
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicots; core eudicots;
Rosidae; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
REFERENCE 1 (bases 1 to 941)
AUTHORS Shinozaki, K. and Kasuga, M.
TITLE Environmental stress-tolerant plant
JOURNAL Patent: JP 2000116259-A 12 25-APR-2000;
JAPAN INTERNATIONAL RESEARCH CENTER FOR AGRICULTURAL SCIENCES,
BIO-ORIENTED TECHNOL RES ADVANCEMENT INST
COMMENT OS Arabidopsis thaliana
PN JP 2000116259-A/12
PD 25-APR-2000
PF 09-OCT-1998 JP 1998287999
PR
PI KAZUKO SHINOZAKI, MIE KASUGA
PC A01H5/00, C07K14/415, C12N5/10, C12N15/09, C12P21/02// (C12N15/09,
PC C12R1:91),
PC (C12P21/02, C12R1:19), C12N5/00, C12N15/00, (C12N15/00, C12R1:91)
CC
FH Key Location/Qualifiers
FT source 1..941
FT /organism='Arabidopsis thaliana'.
FEATURES Location/Qualifiers
source 1..941
/organism="Arabidopsis thaliana"
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BASE COUNT 372 a 144 c 140 g 285 t
ORIGIN

Query Match 100.0%; Score 20; DB 6; Length 941;
Best Local Similarity 100.0%; Pred. No. 4.8;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 atatcataccgacatcagtt 20
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Db 632 ATATCATACCGACATCAGTT 651

RESULT 11
E34339
LOCUS E34339 941 bp DNA linear PAT 31-JAN-2002
DEFINITION Environmental stress-tolerant plant.
ACCESSION E34339
VERSION E34339.1 GI:18624324
KEYWORDS JP 2000116260-A/12.
SOURCE Arabidopsis thaliana.
ORGANISM Arabidopsis thaliana

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
 Spermatophyta; Magnoliophyta; eudicots; core eudicots;
 Rosidae; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
 REFERENCE 1 (bases 1 to 941)
 AUTHORS Shinozaki,K. and Kasuga,M.
 TITLE Environmental stress-tolerant plant
 JOURNAL Patent: JP 2000116260-A 12 25-APR-2000;
 JAPAN INTERNATIONAL RESEARCH CENTER FOR AGRICULTURAL SCIENCES,
 BIO-ORIENTED TECHNOL RES ADVANCEMENT INST
 COMMENT OS Arabidopsis thaliana
 PN JP 2000116260-A/12
 PD 25-APR-2000
 PF 14-OCT-1998 JP 1998292348
 PR
 PI KAZUKO SHINOZAKI, MIE KASUGA
 PC A01H5/00, C07K14/415, C12N15/09, C12N15/00
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 BASE COUNT 372 a 144 c 140 g 285 t
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Query Match 100.0%; Score 20; DB 6; Length 941;
 Best Local Similarity 100.0%; Pred. No. 4.8;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Qy 1 atatcataccgacatcagtt 20
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 Db 632 ATATCATACCGACATCAGTT 651

RESULT 12
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 LOCUS ATLTI78 3420 bp DNA linear PLN 16-MAR-1993
 DEFINITION A.thaliana lti78 gene.
 ACCESSION X67671
 VERSION X67671.1 GI:16389
 KEYWORDS lti78 gene.
 SOURCE thale cress.
 ORGANISM Arabidopsis thaliana
 Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
 Spermatophyta; Magnoliophyta; eudicots; core eudicots;
 Rosidae; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
 REFERENCE 1 (bases 1 to 3420)
 AUTHORS Vahala,T.K.
 TITLE Direct Submission
 JOURNAL Submitted (10-AUG-1992) T.K. Vahala, Swedish Univ. of Agricultural
 Sciences, Dept. of Molecular Genetics, Box 7003, 75007 Uppsala,
 SWEDEN
 REFERENCE 2 (bases 1 to 3420)
 AUTHORS Nordin,K., Vahala,T. and Palva,E.T.

TITLE Differential expression of two related, low-temperature-induced genes in *Arabidopsis thaliana* (L.) Heynh
JOURNAL Plant Mol. Biol. 21 (4), 641-653 (1993)
MEDLINE 93192524
FEATURES Location/Qualifiers
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/db_xref="taxon:3702"
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/clone_lib="genomic, lambda EMBL Y"
/dev_stage="vegetative"
misc_feature 740..747
/note="ABA-responsive element, putative"
TATA_signal 770..775
/note="putative"
exon 803..932
/gene="lti78"
/number=1
/evidence=experimental
prim_transcript 803..>3281
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KFA SMLGYSGEI PVGDQ TQVAGTV DEKLTPVNEKDQET ESAVTTKLPISGGGSGVEEQ
RGEDKSVSGRDYVAEKLTT EEDKA FSDMV A EKLQIGGEEKKETTTKEVEKISTEKA
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ORIGIN

Query Match 100.0%; Score 20; DB 8; Length 3420;
Best Local Similarity 100.0%; Pred. No. 4.4;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 atatcataccgacatcagtt 20
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Db 574 ATATCATACCGACATCAGTT 593

RESULT 13
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LOCUS ATHCOR78B 3533 bp DNA linear PLN 30-SEP-1993
DEFINITION Arabidopsis thaliana cor78 protein gene, complete cds.
ACCESSION L22568
VERSION L22568.1 GI:404667
KEYWORDS cor78 gene.
SOURCE Arabidopsis thaliana DNA.
ORGANISM Arabidopsis thaliana
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicots; core eudicots;
Rosidae; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
REFERENCE 1 (bases 1 to 3533)
AUTHORS Horvath,D.P., McLarney,B.K. and Thomashow,M.F.
TITLE Cor78 genomic sequence
JOURNAL Unpublished (1993)
FEATURES Location/Qualifiers
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S R E T H H E S L N T P V S L L S G T E D V T S T F A P S G D E Y L D G Q R K V N V E T P I T L E E S A V S D Y
L S G V S N Y Q S K V T D P T K E T G G V P E I A E S F G N M E V T D E S P D Q K P G Q F E R D L S T R S K E F K
E F D Q D F D S V L G K D S P A K F P G E S G V V F P V G F G D E S G A E L E K D F P T R S H D F D M K T E T G M D
T N S P S R S H E F D L K T E S G N D K N S P M G F G S E S G A E L E K F D Q K N D S G R N E Y S P E S D G G L G
A P L G G N F P V R S H E D L K N E S D I D K D V P T C F D G E P D F L A K G R P G Y G E A S E E D K F P A R S D
D V E V E T E L G R D P K T E T L D Q F S P E L S H P K E R D F K E S R D D F E E T R D E K T E E P K Q S T Y T E
K F A S M L G Y S G E I P V G D Q T Q V A G T V D E R L T P V N E K D Q E T E S A V T K L P I S G G G S G V E E Q
R G E D K S V S G R D Y V A E K L T E E E D K A F S D M V A E K L Q I G G E E K K E T T K E V E K I S T E K A
A S E G E A V E E V K G G G G M V G R I K G W F G G G A T D E V K P E S P H S V E E A P K S S G W F G G G A T E
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intron 1773. .1856
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exon 1857. .3533
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BASE COUNT 1168 a 564 c 848 g 953 t
ORIGIN

Query Match 100.0%; Score 20; DB 8; Length 3533;
Best Local Similarity 100.0%; Pred. No. 4.4;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 atatcataccgacatcagtt 20
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Db 577 ATATCATAACCGACATCAGTT 596

RESULT 14
D13044
LOCUS D13044 8048 bp DNA linear PLN 14-APR-2000
DEFINITION Arabidopsis thaliana DNA for RD29B, RD29A, complete cds.
ACCESSION D13044
VERSION D13044.1 GI:285614
KEYWORDS RD29A; RD29B.
SOURCE Arabidopsis thaliana (strain:Columbia) DNA.
ORGANISM Arabidopsis thaliana
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicots; core eudicots;
Rosidae; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
REFERENCE 1 (sites)
AUTHORS Yamaguchi-Shinozaki, K. and Shinozaki, K.
TITLE Arabidopsis DNA encoding two desiccation-responsive rd29 genes
JOURNAL Plant Physiol. 101 (3), 1119-1120 (1993)
MEDLINE 94143472

REFERENCE 2 (bases 1 to 8048)
AUTHORS Shinozaki, K.
TITLE Direct Submission
JOURNAL Submitted (25-AUG-1992) Kazuo Shinozaki, Tsukuba Life Science Center, The Institute of Physical and Chemical Research; 3-1-1 Koyadai, Tsukuba, Ibaraki 305-0074, Japan
(E-mail:sinozaki@rtc.riken.go.jp, Tel:0298-36-4359,
Fax:0298-36-9060)
FEATURES Location/Qualifiers
source 1. .8048
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/strain="Columbia"
/db_xref="taxon:3702"
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gene 1786. .3927
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exon 1997. .2108
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/number=2
exon 2222. .2736
/gene="rd29B"
/number=3
exon 2813. .3927
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/number=4
TATA_signal 5398. .5403
gene 5512. .7909
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BASE COUNT 2651 a 1359 c 1902 g 2136 t
ORIGIN

Query Match 100.0%; Score 20; DB 8; Length 8048;
Best Local Similarity 100.0%; Pred. No. 4.1;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 atatcataccgacatcagtt 20
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Db 5201 ATATCATACCGACATCAGTT 5220

RESULT 15
AB019226
LOCUS AB019226 73999 bp DNA linear PLN 27-DEC-2000
DEFINITION Arabidopsis thaliana genomic DNA, chromosome 5, TAC clone:K24M7.
ACCESSION AB019226 BA000015
VERSION AB019226.1 GI:3869065
KEYWORDS .
SOURCE Arabidopsis thaliana (strain:Columbia) DNA, clone_lib:Mitsui TAC
clone:K24M7.
ORGANISM Arabidopsis thaliana
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicots; core eudicots;
Rosidae; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
REFERENCE 1 (sites)
AUTHORS Sato,S., Nakamura,Y., Kaneko,T., Katoh,T., Asamizu,E., Kotani,H.
and Tabata,S.
TITLE Structural analysis of Arabidopsis thaliana chromosome 5. X.
Sequence features of the regions of 3,076,755 bp covered by sixty
P1 and TAC clones
JOURNAL DNA Res. 7 (1), 31-63 (2000)
MEDLINE 20181125
REFERENCE 2 (bases 1 to 73999)

AUTHORS Nakamura, Y.
TITLE Direct Submission
JOURNAL Submitted (29-OCT-1998) Yasukazu Nakamura, Kazusa DNA Research Institute, Department of Plant Gene Research; 1532-3, Yana, Kisarazu, Chiba 292-0812, Japan (E-mail:ynakamu@kazusa.or.jp, Tel:81-438-52-3935, Fax:81-438-52-3934)
COMMENT Address for correspondence: kaos@kazusa.or.jp
For the latest information on annotation of this clone, please see http://www.kazusa.or.jp/kaos/cgi-bin/agd_graph.cgi?c=K24M7
Genes with similarity to proteins in the databases are described in 'product' or 'note' qualifiers. Genes that have no significant protein similarity are described as 'unknown protein'.
The software programs used to predict genes include: Grail (Informatics Group, Oak Ridge National Laboratory, <http://compbio.ornl.gov/Grail-1.3/>), GENSCAN (Chris Burge, MIT, <http://CCR-081.mit.edu/GENSCAN.html>), NetGene2 (S.M. Hebsgaard, et al., CBS, Technical University of Denmark, <http://www.cbs.dtu.dk/services/NetGene2/>) and SplicePredictor (Volker Brendel, Stanford University, <http://gremlin1.zool.iastate.edu/cgi-bin/sp.cgi>).
Genes encoding tRNAs are predicted by tRNAscan-SE (Sean Eddy, Washington University School of Medicine, St. Louis, <http://genome.wustl.edu/eddy/tRNAscan-SE/>).
This sequence may not be the entire insert of this clone. It may be shorter because we remove overlaps between neighboring submissions. The 5' clone is F17P19 and the 3' clone is T4M5.

FEATURES

source Location/Qualifiers
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RESULT 10
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XX
AC AAA53425;
XX
DT 04-OCT-2000 (first entry)
XX
DE Rd29A gene fragment nucleotide sequence.
XX
KW Dehydration responsive element; DRE; transgenic plant; stress; salinity;
KW environmental stress; temperature; stress resistant plant; PCR primer;
KW rd29A; ds.
XX
OS Arabidopsis thaliana.
XX
PN JP2000116260-A.
XX
PD 25-APR-2000.
XX
PF 14-OCT-1998; 98JP-0292348.
XX
PR 14-OCT-1998; 98JP-0292348.
XX
PA (NORQ) NORINSUISANSHO KOKUSAI NORIN SUISANGYO.
PA (SEIB-) SEIBUTSUKEI TOKUTEI SANGYO GIJUTSU.
XX
DR WPI; 2000-389819/34.
XX
PT New transgenic plants resistant to environmental stresses, comprise a
PT DNA bound with a gene encoding for a transcription factor in a stress
PT responsive promoter -
XX
PS Example 5; Page 26; 36pp; Japanese.
XX
CC This invention relates to transgenic plants that are resistant to
CC environmental stresses. This sequence represents a fragment of an rd29A
CC gene used in the production of the transgenic plants of the invention.
CC The transgenic plants comprise a vector containing a gene encoding a
CC transcription factor and a stress responsive element (e.g. DRE
CC dehydration responsive element or rd29A promoter sequence). The
CC transcription factor gene is linked to the stress responsive element.
CC Also included in the invention is a method for the preparation of the
CC transgenic plants. This method can be used to prepare stress resistant
CC agricultural plants, which are resistant to dehydration, low temperature
CC and salinity.
XX
SQ Sequence 941 BP; 372 A; 144 C; 140 G; 285 T; 0 other;

Query Match 100.0%; Score 20; DB 21; Length 941;
Best Local Similarity 100.0%; Pred. No. 0.57;
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||| ||| ||| ||| ||| |||
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RESULT 11
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ID AAA53474 standard; DNA; 941 BP.
XX
AC AAA53474;
XX
DT 04-OCT-2000 (first entry)
XX
DE Rd29A promoter nucleotide sequence.
XX
KW Dehydration responsive element; DRE; transgenic plant; stress; salinity;
KW environmental stress; temperature; stress resistant plant; rd29A;
KW promoter; ss.
XX
OS Arabidopsis thaliana.
XX
PN JP2000116259-A.
XX
PD 25-APR-2000.
XX
PF 09-OCT-1998; 98JP-0287999.
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PR 09-OCT-1998; 98JP-0287999.
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PA (NORQ) NORINSUISANSHO KOKUSAI NORIN SUISANGYO.
PA (SEIB-) SEIBUTSUKEI TOKUTEI SANGYO GIJUTSU.
XX
DR WPI; 2000-379177/33.
XX
PT Plants resistant to environmental stresses. -
XX
PS Example 5; Page 26; 36pp; Japanese.
XX
CC The invention relates to transgenic plants resistant to environmental
CC stress. The plants comprise a vector containing a gene downstream of a
CC stress responsive element e.g. the stress responsive promoter of rd29A or
CC a dehydration responsive element (DRE). Also included in the invention is
CC a method for the production of the transgenic plants. This method can be
CC used to prepare stress resistant agricultural plants, which are resistant
CC to dehydration, can withstand low temperatures and environments of high
CC salinity.
CC The present sequence represents the promoter of the rd29A gene. The PCR
CC product is used in the production of the plants of the invention.
XX
SQ Sequence 941 BP; 372 A; 144 C; 140 G; 285 T; 0 other;

Query Match 100.0%; Score 20; DB 21; Length 941;
Best Local Similarity 100.0%; Pred. No. 0.57;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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